



Department of the Army
North Atlantic Regional Medical Command/Walter Reed Army Medical Center
Telemedicine Directorate
6900 Georgia Avenue, NW, Washington, DC 20307-5001

**Telemedicine
Directorate**

<http://telemedicine.wramc.amedd.army.mil/>

TMED Imaging Center
(202) 782-4028

Email

NARMCTelemedicine@amedd.army.mil

Other Websites

www.narmc.amedd.army.mil

www.wramc.amedd.army.mil

Remote Interactive Monitoring of Patients on Anticoagulation Therapy to Improve Outcome and Avoid Complications

The North Atlantic Region Medical Command (NARMC) supports a very large number of active duty, dependant and retiree patients who may require temporary or indefinite anticoagulation therapy. Currently most military patients taking Coumadin® are followed in a “Coumadin Clinic” which reviews lab tests of clotting times and advises changes to patients’ Coumadin® doses as well as time intervals for repeat blood testing. The Walter Reed Army Medical Center (WRAMC) Coumadin Clinic alone has approximately 550 patients enrolled and managed. This is a high-risk, resource-intensive service and may involve serious and costly complications if not done well.

A patient self-test (PST) device, International Techynidyne Corporation’s (ITC) ProTime® Microcoagulation System, is available to allow in-home determination of INR. A Web-based programmable home monitoring system, the Health Hero Network’s (HHN) HealthBuddy®, has been used successfully in diabetics to date. The HealthBuddy®, which attaches to a patient’s telephone line and does not require use of a computer, should be adaptable to allow Coumadin® patients to report changes in condition, problems with therapy, and complications. We expect such a monitoring capability to increase the supervising practitioner’s ability to optimize therapy and track, if not avert, complications and failures of the therapy. Further interaction would take place during a much shortened time interval and would more quickly identify high-risk patients, allowing more timely and effective intervention.

By investigating the safety and efficacy of both PST and remote interactive monitoring of patients on anticoagulation therapy, the WRAMC Coumadin Clinic may be able to:

- 1) Increase the success of the therapy and therefore limit risk to the patient from their conditions (decrease complications)
- 2) Decrease the risk to patients of the therapy itself
- 3) Decrease hospitalization and associated costs of treatment of patients either failing therapy or suffering complications of therapy
- 4) Limit cost, time, and productivity lost to therapy
- 5) Suggest multiple other conditions which also require a large investment of resources to which this technology may be adaptable

The WRAMC Coumadin Project will evaluate approximately 400 patients divided into four different groups for a period of one year. Group 1 is a control group receiving standard lab testing and telephone monitoring. Group 2 will test the use of the ProTime® PST technology in a military population. Group 3 will use the HealthBuddy® to communicate interactively with the WRAMC Coumadin® Clinic via the Web. Group 4 will receive both devices.

Points of Contact:

Principal Investigator

Senior Project Manager

Cardiology Service
Department of Medicine
Walter Reed Army Medical Center

Telemedicine Directorate
Walter Reed Army Medical Center

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